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APPLICATION

Of

Gord Nelson

For

UNITED STATES LETTERS PATENT

On

Golf-Related Video Recording Apparatus

Sheets of Drawings: Three

10036105-103001
"FOOT" 50F9F001

TITLE: Golf-Related Video Recording Apparatus

BACKGROUND OF THE INVENTION

5 FIELD OF THE INVENTION:

This invention relates generally to the game of golf and more particularly to a particular contest type of game played on a golf course.

10 DESCRIPTION OF RELATED ART:

The following art defines the present state of this field:

Jetton, U.S. 3,104,879 describes a golf driving range comprising a fairway, a line of tee stands adjacent an end of said fairway, a pond located in said fairway, a generally annular float on said pond, a flagged pole centrally upstanding from said float, means secured to said float supporting said pole, and upwardly-convex generally frusto-conical plate concentric with said pole, the peripheral edge of said plate being disposed closely adjacent the inner periphery of said float to define an annular trough; flexible means suspending said plate from said pole in a manner whereby the weight of a golf ball in said trough will cause said plate to tilt downwardly into engagement with said float, and means defining annular electrical switch contacts at the peripheral edge of said plate and at the inner periphery of said float along the annular area of the latter engaged by said plate on downward tilting movement of the latter.

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Baker, U.S. 4,922,222 describes a golf ball whose presence is sensed upon a tee. After it is struck, its presence is sensed in a target cup. A Hole in One Alarm receives status information from the tee sensor and the cup sensor, and processes that information using logic and timing elements to determine that the sequence and timing conforms to a true "hole

in one" event, then activating a signal. The logic and timing elements are coupled and set so as to reject deliberate attempts to defeat the Hole in One Alarm and other event sequences not consistent with a true "hole in one" event.

5 Shirley, U.S. 4,934,705 describes a multi-holed golf course having fairways, greens and tee boxes comprising a television monitor located on the tee box; a videocassette player; a videocassette within said videocassette player having video images stored thereon including images of the golf hole on which the apparatus is located; and apparatus to initiate play of
10 monitor. Electrical power may be provided by a battery connected to a battery charger operated by solar panels located on top of a cabinet which contains the television monitor and videocassette player.

Vincent, U.S. 5,102,140 describes a system for recording the occurrence of a hole-in-one or
15 other preselected event at a golf layout including a video camera trained upon the tee, the target putting green, and any intervening area between the tee and putting green, plus a recording device for storing video images showing the flight trajectory of a golf ball from a tee to the green. The video camera and recording device are operated by a coin control adjacent to the tee. A golfer first inserts the appropriate coins, causing the video camera and
20 recording device to be operational for a predetermined time period. If a hole-in-one or other specified event occurs, the recorded video images can be monitored to verify this fact and to substantiate the claim of a player to any outstanding offer of a prize or reward.

Nichols et al., U.S. 5,354,052 describes a device for detecting the presence of a golf ball in a
25 ball-receiving cup comprising a flag pole having a tubular lower portion dimensioned to be received within a standard ball-receiving cup and supporting four photointerruptors each comprising an infrared emitter and a corresponding photodetector, with the beams from the emitters passing through opening in the tubular portion and being spaced at 90-degree intervals around the periphery of the tubular portion so that the four quadrants of the cup are

within the fields of the photointerruptors. When a golf ball enters the cup, the infrared beam from one of the emitters is reflected from the surface of the golf ball and is received by the corresponding photodetector to cause a change in the state of the photodetector which in turn causes a display to be illuminated to indicate that a golf ball has ended the cup.

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Reising, U.S. 5,370,389 describes a golfing range game which allows a player to practice both long-range and close-range shots while aiming for different target greens located at varying distances from the teeing area. If the player lands a ball on one of the greens, he receives a score on a visual display that is located near the teeing area so the player can easily see his score. Each of the greens is sloped so that a ball that lands upon the greens' surface will roll into a hole located at the lowest point of the surface. Each ball has a distinctive marking, either a color code or a bar code, so that it can be determined from which tee the ball was hit. After the ball rolls into the hole of a green, a sensor scans the ball and identifies from which tee the ball came. A score is then added to the visual display at the corresponding tee. Each green can have a different point value, depending upon the difficulty of the golf shot required to land on that green.

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Clark, Jr., U.S. 5,445,374 describes a tee area from which contestants may hit golf balls toward flag cups located on a plurality of greens. If a contestant hits a golf ball into a flag cup, a ball sensor detects the presence of the golf ball and a remote indicator announces the presence of such a golf ball in the flag cup. Thereafter, an actuator may be utilized to move a door from a closed position to an open position. When such a door is in the open position, the golf ball is permitted to enter a conduit which extends from the flag cup to a remotely located ball receptacle. The actuator then closes the door and a vacuum pump applies a vacuum to the conduit to move the golf ball from the flag cup to the ball receptacle. Air entering the conduit at the flag cup is filtered to prevent debris or other foreign objects from entering the conduit. The ball receptacle may be made from a transparent material so that the golf ball may be identified as belonging to a particular contestant.

Bonacorsi, U.S. 5,653,642 describes a golfing game and the apparatus for accomplishing the same. The game apparatus includes a driving range having a tee area and a target or series of targets. Using all the skill he possess, the player(s) strike(s) the ball toward the target(s) attempting to reach the target on one stroke. Upon reaching the target in one stroke a
5 verification system signals the validity of the ball entering the target. After the ball entering the target is declared valid, a notification is activated which alerts the other players and personnel on the driving range. Immediately, thereafter the winning player is provided with additional rewards.

10 Cohen, U.S. 5,884,913 describes a golf tee shot-green placement monitoring system for monitoring golf tee shots to a designated green of a three-par golf course hole for determining the placement of such tee shots upon the green in connection with hole-in-one and closest-to-the-pin contests or challenges. The system comprises a club house base unit, a tee unit, and a green unit. Upon payment of a specified nominal fee, the participating golfer
15 is issued a game card at the club house terminal. Upon reaching the designate three-par hole tee, the golfer inserts the card, or inputs encoded data, into the tee unit which then activates the green unit. Upon driving the tee shot, the green unit, comprising photodetectors and ultrasonic ranging devices, determines the achievement of a hole-in-one or the placement of the tee shot within specified distances from the cup or hole. If the golfer achieves a hole-in-
20 one or places his tee shot within the specified distances from the hole or cup, prize money is awarded.

Nation, U.S. 6,012,987 describes an apparatus to facilitate the playing of a recreational game. The apparatus includes an electronic surveillance camera and a motion sensor
25 mounted above and focused on a target area. The image data generated by the camera and the data generated by the motion sensor is transmitted to a central processing unit. The image of the target area transmitted by the surveillance camera is displayed on the screen of a video monitor. Movement of an object on the target area is detected by the motion sensor and displayed on the monitor screen. The central processing unit includes a library of target

area overlays to alter the viewed characteristics of the target area on the monitor screen. Each target area may include a marker surrounded by a spaced apart scoring ring or rings so that a ball lying on the target area can, if it lies within a predetermined area, be allocated a score.

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The prior art teaches the use of golf ball sensing devices used in conjunction with certain games and contests on the golf course, but does not teach the use of a self-contained and sufficient and coin operated video recording system for recording golf drives in a hole in one contest. The present invention fulfills these needs and provides further related advantages as described in the following summary.

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SUMMARY OF THE INVENTION

The present invention teaches certain benefits in construction and use which give rise to the objectives described below.

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A golf-related video recording apparatus and method comprises a single hole golf course fairway, having positioned at one end a tee-off area, and at another end, a golf green with cup area. A field house structure is positioned adjacent the tee-off area and houses an electrical power source for powering video capturing means, a video storing means, and a video playback means. The video capturing means are preferably video cameras set for viewing the tee area and the cup area. The apparatus is electrically interconnected and enabled for capturing golf ball drives from the tee area and golf ball arrivals and cup drops for permanent recording. The system is fully self-contained and may be coin or token operated.

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A primary objective of the present invention is to provide an apparatus and method of use of such apparatus that provides advantages not taught by the prior art.

Docket #: Nelson.G-01

Another objective is to provide such an invention capable of recording golf play on a fairway of a golf course.

A further objective is to provide such an invention capable of composite video from plural cameras.

A still further objective is to provide such an invention capable of being operating at remote locations without connection to the power grid and with activation by a coin or token operated switch.

Other features and advantages of the present invention will become apparent from the following more detailed description, taken in conjunction with the accompanying drawings, which illustrate, by way of example, the principles of the invention.

BRIEF DESCRIPTION OF THE DRAWINGS

The accompanying drawings illustrate the present invention. In such drawings:

Figure 1 is a plan view of the preferred embodiment of a golf fairway and also shows a video monitor with screen showing four views simultaneously;

Figure 2 is an elevational view of a field house structure thereof with electrical components of a video system; and

Figure 3 is a block diagram of the video system.

DETAILED DESCRIPTION OF THE INVENTION

The above described drawing figures illustrate the invention in at least one of its preferred
5 embodiments, which is further defined in detail in the following description.

A golf-related contest and game apparatus, as shown in Fig. 1, comprises a single hole golf
course fairway 10, and positioned at one end of the golf course fairway, a tee-off area 20,
and positioned at another end of the golf course fairway, a golf green with cup area 30. A
10 field house structure 40 is positioned adjacent to the tee-off area 20. The field house
structure 40 houses an electrical power source 50, and energized thereby: a first video
capturing means 60, a video storing means 70, and a video playback means 80. The
apparatus further comprises a second video capturing means 90 positioned adjacent the golf
green with cup area 30. The apparatus is electrically interconnected and enabled for
15 capturing on video tape, golf ball drives from the tee-off area 20 and golf ball arrivals at the
golf green with cup area 30, whereby golfers are able to obtain video recordings of golf play.

Preferably, the first video capturing means 60 is a video camera positioned relative to the
tee-off area 20 so that it is able to view the tee of the tee-off area 20 and for viewing the line
20 of flight of a typical golf ball drive from the tee. Likewise, the second video capturing
means 90 is a set of three video cameras positioned at left, right and far center around the
golf green with cup area 30 so as to be able to view all of the golf green with cup area 30.
This is illustrated in Fig. 1.

25 Preferably, the video playback means 80 is video monitor as shown in Fig. 1. Preferably, the
video playback means is enabled for display of views from the first 60 and the second 90
video capturing means simultaneously, and this technique is very well known in the art.

Preferably, the electrical source 50 comprises an electricity storing means, such as plural 12 volt lead-acid type storage batteries wired in parallel, a solar powered electricity generator 100 such as cadmium-sulfide solar-electric generating cells which are well known in the art, a dc to ac current inverter 110, also well known in the art and an uninterruptible power supply 120, and a coin or token operated access device or switch 130 which are also very well known in the art. A charging connector 130 is adapted for enabling charging of the electricity storing means 50 by a standard 115 volt ac power line.

Preferably, a motion sensing means 140, such as an infrared sensor, well known in the art, is adapted for actuating each of the video capturing means upon sensing motion in the field of view of each respective of the video capturing means. This would be an optional method of operation of the cameras.

Clearly, one of skill in the art would have no trouble in operating the above elements using a microcomputer 95 with common commercial software for enabling the operation of plural video cameras 60, 90 and controlling the power system 50, 100, 130, 110, 120 described above.

The above described apparatus is useful in golf-related contest and games and particularly in a method comprising the steps of providing the single hole golf course fairway 10, having positioned at one end, the tee-off area 20, and at another end, the golf green with cup area 30; positioning the field house structure 40 adjacent to the tee-off area 20; viewing golf play on the golf course fairway 10 with the video capturing means 60, 90; storing the captured video and playing back the captured video on demand. In this manner golfers are able to obtain video recordings of golf play. Plural views of the golf play may be shown simultaneously. The method may be practiced using solar power to operate the above described apparatus so that such video recordings may be made in remote locations far from standard power. To conserve power and video tape, the cameras may be placed in the

'record' mode upon sensing of motion by the motion sensors 140 mounted on, or in, the cameras 60.

The above apparatus and method is intended to be used in contests and games such as: trying
5 to obtain a hole-in-one, trying to drive closest to the pin, trying to be the first down, i.e., in
the cup, and many alternative game and contest possibilities. More than one fairway of a
golf course may be fitted with the apparatus of the present invention and including all of the
holes on the course. As such, the present invention may be used for games and contests as
described, or for recording play for instruction purposes.

10 While the invention has been described with reference to at least one preferred embodiment,
it is to be clearly understood by those skilled in the art that the invention is not limited
thereto. Rather, the scope of the invention is to be interpreted only in conjunction with the
appended claims.

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